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Keeping Pace with the Digital Transformation of Place

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Abstract

This chapter provides a reflection of digital transformation in place branding research using a place management trifecta: place marketing, placemaking and place maintenance. A systematic literature review offers a reflection on scholarly interpretation of the influence of digital transformation, identifying relevant gaps, and offering future research directions. Place marketing constitutes the majority of studies obtained by the review process, while those from placemaking reflect its status as an emergent field with research considering the influence of digital platforms that are used to engage communities with a view to enhancing societal wellbeing. Lastly, place maintenance is reflected through case studies of digital platforms facilitating the curation of places. Critically, results indicate that whilst digital transformation is prevalent in the field, research into the longer-term impacts is limited. Additionally, in-depth critical analysis of digital transformation appears as a notional add-on to empirical work, especially regarding social media. Moreover, studies which critically examine the detriment caused by digital transformation are a notable absence. By using the place management trifecta, this chapter aims to make sense of the increasing digital transformation of place branding, as well as offer guidance for future research. A research agenda suggests three key areas for consideration: artificial intelligence and machine learning, automation, and sentiment analysis.

Keywords: digital transformation, place branding, place marketing, placemaking, place maintainance, systematic literature review

Introduction

Digital platforms are increasingly important in modern life, offering unprecedented access to information and services at a rapid pace. Such interactions produce significant amounts of data which are utilised for purposes of interest, by both the owners and users of such platforms. These data establish fertile ground for understanding human behaviour through empirical study. Accordingly, scholars have shown interest in the digitalization of place branding practices (Sevin, 2014; Hanna and Rowley, 2015; Kim et al., 2017; Uşaklı et al., 2017; Breek et al., 2018a), and there have been notable attempts to offer critical commentaries on the complexities arising from the practice of digital adoption (e.g. Oliveira and Panyik, 2015). Whilst such studies present a viable picture of digital transformation through numerous case studies *in situ* and impressionistic reflections, there is a distinct requirement to establish a holistic view of the phenomenon.

Systematic literature reviews are useful tools for keeping pace with popular trends in disparate disciplines (Tranfield et al., 2003). One of the benefits of systematic reviews is the ability to illustrate trends and patterns in empirical interrogations and conceptualisations of topics, and this approach is popular with place branding scholars (Jones and Kubacki, 2014; Acharya and Rahman, 2016; Evan Cleave and Arku, 2017; Boisen et al., 2018). However, reviews such as these have disadvantages, particularly with their methodological application. Webster and Watson (2002) suggest the use of exclusion protocols to ensure clarity in the focus of reviews. Consequently, systematic reviews of place branding research employ limiting exclusion policies which only permit publications from marketing journals (e.g. Vuignier, 2016; Cleave and Arku, 2017). For example, Jones and Kubacki's (2014) review narrowed their selection of relevant articles to the fields of business, branding and tourism to examine the impact of social issues on place branding. With exclusion policies being commonplace in application, they

equate to a knowledge conundrum in place branding whereby sources in disciplines such as geography and architecture can be overlooked. Additionally, systematic reviews can sometimes draw their conclusions from a quite small number of papers, which is understandable for niche topics, but runs the risk of narrative bias. Cleave and Arku (2017), for example, used 39 sources for their review of the influence of place branding from a geographic perspective.

Hence, this chapter seeks to offer a broader view of the relationship between digital transformation of place branding by clustering together a flotilla of work from a range of disciplines using the lens of place management. In doing so, a trifecta of place management frames the systematic literature review, namely, place marketing, placemaking and place maintenance. As a result, a better understanding of the impact of digital transformation of place branding is produced which may be of value to researchers and practitioners alike. After reflecting on the range of studies thematically, notable gaps are identified which the chapter encapsulates in a further research agenda. Three new potential avenues for future research are suggested; specifically, the use of artificial intelligence and machine learning operations in understanding a wider array of user interactions with places, digital automation processes supporting users experiences of places, and the use of sentiment analysis to compliment place management strategies.

The chapter continues with an overview of definitions and concepts used, followed by an overview of the methodology used in the systematic collection and review of studies that consider digital transformation in place branding. Then, a commentary on notable trends and knowledge gaps in this body of research is made through the place management lens. Following this, a future research agenda is provided, building upon prior gaps identified. The

chapter concludes by arguing that future place branding scholars may consider the place management trifecta as a guide to their investigative endeavours.

Definitions and concepts

To perform any commentary on place branding, it is worth addressing definitional perplexity. Skinner (2008) points out the issues surrounding the use of place branding as an umbrella term and its relation with the marketing of places. She provides a useful argument by positing the subtle nuances of place branding and the relationship between place promotion activities and the management of places. Hence, it is not a new (let alone unworthy) endeavour to try to provide an alternative viewpoint of place branding as this chapter hopes to do. By unpicking the component parts of concepts, it may be possible to learn more about its capabilities and future potential.

To navigate the murky waters of the place branding identity debate (Warnaby and Medway, 2013), the chapter gladly adopts Parker's (2008) mantra that place management strives to 'make places better' (p.5). Hence, instead of seeking to add fuel to the definitional place branding merry-go-round, this chapter adopts three facets of place management (marketing, making and maintenance) which are relevant to digital transformation to frame the systematic literature review. In so doing, the resultant trifecta establishes a viable lens to make sense of the body of work in this field as well as guide a further research agenda. Let me next clarify each facet of the trifecta.

By place marketing, I refer to the activities involved in the promotion of places, which of course involves branding, as well as other marketing functions. For brevity's sake, Skinner (2008) attests to the concept of place marketing as a place management function, enacted through an

outside-in approach by multiple stakeholders, whereas place branding privileges the marketing communications domain through an inside-out approach. As both marketing and branding of places are of importance, the rest of the discussion will adopt place branding as a composite of both sides of the debate, as digital transformation has influenced both the management and promotional functions of place management.

Making places or placemaking indicates activities taken by users in the enhancement of places, transforming them into more liveable spatial entities. Paulsen (2010) suggests the that goal of placemaking is to create a space that is useful and meaningful. Typically, this type of strategy would involve the input of planners, residents etc. to influence the dimensions of places. In turning our attention to the digital sphere, online communities are rapidly becoming important platforms for debate relating to places (Breck et al., 2018); hence, there is potential to consider the influence of digital technologies and channels in modern-day placemaking (Fredericks et al., 2015).

The final element of the trifecta is place maintenance, which represents ongoing curation activities by stakeholders who already interact with that place. Benson and Jackson (2013) distinguish place maintenance from placemaking, claiming the former is a process of ensuring longevity of places through ongoing action. There are obvious links here to Graham and Thrift's (2007) notion of maintenance and repair work to maintain distinct assemblages and spatialities. Arguably, the mundane and quotidian nature of much maintenance work lacks the allure of innovative placemaking initiatives, yet it is equally as important to place management (e.g, Denis and Pontille, 2014). For example, Memmot (1980) considered the role of place maintenance and its contribution to placefulness through an ethnographic study of aboriginal cultural practices which offers us a user grounding for understanding this concept:

‘In classical Aboriginal cultures examples [of place maintenance] included burning areas of country, cleaning plant growth from sacred sites, seasonal rebuilding of villages and camps, sweeping domiciliary spaces and replenishing rock art ochres. The various forces listed above, imbue stability to place character.’ (Memmott, 1980, p. 498)

It is certainly the case that digital platforms can play a role in supporting the organisation and implementation of place maintenance, as this systematic review will show.

To summarise, the trifecta of place management presents three facets which are important in their own right, yet also have interlinked associations. Place marketing has strong connections with placemaking, and vice versa. Place maintenance activities can also underpin the other two facets. For this chapter, therefore, these three facets will be treated as individual, yet interdependent, guiding categories for the purposes of the systematic review.

Lastly, in this chapter, I refer to digital transformation as the use of ‘platforms’ in conjunction with the place management trifecta. An often-used piece of jargon in IT and digital communications fields, ‘platforms’ refer to media communication destinations such as websites, email, mobile, search engines etc; essentially, any digital destination that can be used to communicate with stakeholders and customers. Digital platforms are commonly used by place branding organisations for the purposes of the trifecta. Indicative platforms are listed in Table 1 with notable examples.

Table 1 –Digital transformation platforms in place management

<i>Facet</i>	<i>Digital platforms</i>	<i>Example</i>
<i>Place marketing and branding</i>	<i>Websites, Search engines, Social media, Video, Mobile applications, Email, VR</i>	<i>Destination websites</i>

<i>Place making</i>	<i>Social media, Blogs, Mobile applications</i>	<i>Localised Facebook groups</i>
<i>Place maintenance</i>	<i>Digital-physical automated devices</i>	<i>Shotstopper</i>

The next section of the chapter will provide an overview of the systematic collection and analysis of studies that incorporate digital transformation in place branding through the place management trifecta, culminating in a broad view of the discipline. As a result, the alignment of these studies allows for thematic clustering and identification of patterns and notable gaps.

Systematically reviewing digital transformation in place branding literature

A systematic literature review was performed to identify previous studies which have reported findings or theorised upon the utilisation of digital platforms and their role within a place marketing/branding context. This operation involved the identification of search strings such as in the following example:

“Digital” AND “Place” Branding OR Marketing...*

Subsequently, these strings were applied using a combination of databases through Harzing’s *Publish or Perish* which indexes *Google Scholar*, *Crossref* and *Web of Science*.

For the first round of searches, 2,242 results were returned with many erroneous responses, and these were exported to a .csv Excel file format and were prepared for sorting, using pivot table operations. Initial screening removed a large volume of results that were not relevant to the search strings. 771 sources showed the terms digital with some affiliation to place within the title, abstract, keywords and main body of the sources provided. The next stage performed the first cleaning of the dataset to remove erroneous or non-relevant results, such as branding articles not within a place context. Exclusion factors were then applied to omit duplicate sources, incorrect citations and non-cognate results (for example, the term digital rights

management featured in the initial results due to the search string, yet had no connection to place branding). Next, the results were obtained through direct download into the Mendeley reference manager. At this juncture, 331 results were deemed to be appropriate based on title and abstract screening and were prepared for further analysis.

In terms of disciplines, it was not surprising that marketing, geography, economics, management and tourism featured. However, unexpected domains also emerged. In particular, the video gaming industry provided commentary on digital space and place, and its component constructs (Boellstorff, 2019), which is useful for our understanding of digital placemaking. Other serendipitous results emerged from architectural studies featured in the results by way of insights relating to digital installations and their role in the transformation of spaces and places (Chousein, 2016; Hespanhol, Häusler, Tomitsch and Tscherteu, 2017). An overview of results can be found in Table 2.

Table 2 - Digital research in place marketing, making and maintenance

	No. of results	Most common publication sources
Place marketing	252	<i>Place Branding and Public Diplomacy</i> (26), <i>Journal of Place Management and Development</i> (14), <i>Rethinking Place Branding</i> (6)
Place making	54	<i>Journal of Place Management and Development</i> (5), <i>Place Branding and Public Diplomacy</i> (5)
Place maintenance	12	<i>Urban Forestry & Urban Greening</i> (1), <i>Cities & Health</i> , <i>Urban Affairs Review</i> (1), <i>Sustainability</i> (1)

Digital transformation of place marketing

The dataset indicates that digital transformation of place branding has had the most impact upon marketing. Understandably so, as the primary focus is to convey an image of a place to an audience, digital communication methods can play a role. A number of themes within this sub-set of the dataset were identified; in particular, the reliance on social media as the most commonly used platform for investigations. The dataset indicates a prevalence of place branding studies focusing on social media, through the use of Facebook and Twitter (Ntalianis et al., 2015; Kim et al., 2017; Barcelos et al., 2019; Ebrahimi et al., 2019). Furthermore, a common trend identified from empirical studies in this facet is the analysis of openly available social media data to understanding the outcomes of place marketing (e.g. Petrikova et al., 2020).

One such example is del Mar Gálvez-Rodríguez et al. (2020), who examined varying dimensions of Facebook posts used by destination marketing organisations and analysed social media destination pages over a six-year data collection period. Their findings offer valuable insights into the types of social media posts that outperform others. Furthermore, sentiment analysis of social media data is used to evaluate attitudinal interpretations through vast swathes

of content (Micu et al., 2017), which will feature later in this chapter's future research agenda. Previously, scholars did not offer such depth in their interpretive analysis of digital transformation in place marketing, favouring to retrospective examination of the performance of social media in place marketing scenarios (Lazaridou et al., 2017; Uşaklı et al., 2017; Taneja and Bala, 2019). For instance, Molinillo et al. (2019) claim to investigate the engagement of citizens, but refer to the notion of social media engagement (propensity to like, comment and share); offering little in terms of users' impressions of smart city communication. This highlights an important knowledge gap, whereby only limited studies examine the wider impact of the digital transformation of place marketing amongst a wider range of stakeholders than social media users (Hanna and Rowley, 2015; Cleave et al., 2017; Breek et al., 2018).

It is also noteworthy that very few studies in this section of the dataset consider the impact of destination websites and search engine ranking performance for place marketing (Míguez González, 2011; Fernandez-Cavia et al., 2013). Arguably, these two fundamental digital platforms (websites and search engines) are central to most digital marketing campaigns, yet place branding scholars seem to have overlooked them. Perhaps this is due to the easier access to openly available social media data such as Facebook comments versus performing an in-depth assessment of search engine ranking performance, or website traffic.

Notably, a cursory glance over the dataset suggests an overtly positive tone to research that considers the digital transformation of place marketing, which begs the question why are the disadvantages, issues and challenges involved in digital transformation not covered to any great extent? Critical reflections are presented, whereby a place marketing initiative has not been successful (Pareja-Eastaway et al., 2013; Oliveira and Panyik, 2015; Lupo, 2018; Kompaniets and Rauhut, 2019). However, recent debates around user privacy would suggest that a blithe

view of the benefits of digital transformation is ill advised. Further work in this area would be welcomed, not least for its potential to enhance place marketing practice.

Digital placemaking

The next facet represents an emergent area in practice, yet research is slow to keep pace with developments. Indeed, the term ‘digital placemaking’ frequently appears in the results (Govers et al., 2017; Breek et al., 2018; Vallicelli, 2018; Nisi et al., 2020), yet, oddly, remains undefined within academic works. Numerous interpretations of digital placemaking are available, predominantly within the commercial sectors of architecture (e.g. Digital Placemaking Institute, 2020), planning (e.g. (Bristol & Bath Creative Research and Design, 2020) and digital design (e.g. Chousein, 2016). Calvium has published numerous articles on the topic of digital placemaking and considers it to be ‘the augmentation of physical places with location-specific digital services, products or experiences to create more attractive destinations for all’ (Calvium, 2018).

From this perspective, an overtly positive viewpoint of the potential of digital technology in the enhancement of spaces and places is provided. Encouragingly, this indicates a niche and emerging area where a range of interested parties are thinking about the digital transformation of placemaking. However, I would offer the suggestion that digital placemaking offers the opportunity to equally detract from spaces and places, and that future studies would remain objective as to the shiny allure of digital transformation and remain grounded in their approaches to investigating this topic.

Usage of digital technology in support of efficient interaction by way of smart city applications dominates the digital placemaking facet (e.g. Koeck and Warnaby, 2014; de Noronha et al.,

2017; Nisi et al., 2020). However, the predominant focus is on the outcomes and results of a smart city implementation, whereas very few works explore digital placemaking strategies in detail (e.g. Aurigi et al., 2016; Wang, 2019). In other words, the ‘traditional’ smart city perspective of digital placemaking is the ‘use of digital technology within a dedicated public urban space to specifically communicate with the public’ (Anon, 2016, p. 1); whereas an emerging stream of studies in this facet identify examples of strategic digital placemaking initiatives (e.g. Fredericks et al., 2018), which extends far beyond a unidirectional information dissemination to more inclusive placemaking. Furthermore, one wonders whether the focus on the notion of ‘smart’ is appropriate in such cases. What does smart mean in these instances? It would certainly be considered smart by large corporations to obtain vast amounts of user data for marketing research purposes, under the guise of a smart city application. Yet recent high profile cases of data privacy issues and nefarious activities in election campaigns have tarnished the public perception of open exchanges of user data to third parties (Bright et al., 2019). Therefore, this chapter proposes a shift away from the traditional smart city notion, towards more inclusive placemaking which is supported by digital platforms.

Digital place maintenance

The third and final area identified in the systematic literature review was the identification of studies that examined the notion of place maintenance. As mentioned previously, there are elements of place maintenance which have strong associations with the other two facets of the place management trifecta. However, the systematic review has also identified a small body of studies in this area that hone in on efforts by community stakeholders to engage in on-going efforts to improve spaces and places (Benson and Jackson, 2013). As such, this final facet represents an important distinction between placemaking and marketing, which can be viewed as activities that are enacted in the pursuit of drawing attention to places.

Notably, there was some difficulty in obtaining results, due to the nature of the keywords used, which tended to conflict with the phrase ‘in-place’ and ‘maintenance’. Hence, alternative keywords were adopted which yielded better results, e.g. “*place*” AND “*management*”. As a result of this revised search protocol, four key areas were identified in the literature obtained whereby digital transformation featured, namely; *crime*, *pollution*, *mobility* and *general upkeep*.

Crime featured as a significant focus for place maintenance. Works by Eck and Madensen (2003) identify that such facets of place management can feature reducing crimes such as drug dealing and violence in bars (Madensen and Eck, 2003). Whilst their early works seem to assert the role of place maintenance, only recently has digital transformation featured in this endeavour, presenting an interesting future area for investigation (Eck and Madensen-Herold, 2018). For example, our Shotstopper exemplar used in Table 1 is particularly relevant here, in which a digital gunfire detection system uses acoustic sensors to isolate the sound of gunfire and alert the police. The sensors are placed at a 30-foot elevation under a mile apart. When shots are fired anywhere in the coverage area, ShotSpotter triangulates their location to within 10 feet and reports the activity to police. In effect we see digital management and transformation of place through a place maintenance function.

Another area of place maintenance identified was the application of digital technology to tackle the issue of noise pollution (Carson et al., 2020). Equally, Dempsey and Burton’s (2012) work looked at management practices of urban spaces through use of digital platforms, culminating in the idea of ‘*place-keeping*’, i.e. long term management activities after placemaking activities have occurred). More recently, Faraji and Nozar (2019) promoted a smart parking programme

using magnetic sensors pointing to a central digital display platform with the aim of addressing air pollution. And, sentiment analysis of social media data proposed by Sdoukopoulos et al. (2018) identifies indicators for sustainable urban mobility (e.g. cleanliness, air quality, congestion, public transport affordability). By examining residents' opinions and sentiments expressed on social media platforms, planning decisions in mobility would be supported through such place maintenance indicators (e.g. perception of emissions and air quality for cyclists).

Lastly, the benefits and challenges of urban area upkeep were identified by Nam and Dempsey (2019), who assert the value of nature-based interventions in enhancing users' health and wellbeing. They argue that user needs are addressed through place maintenance processes and one particularly important notion is the idea of '*Friends of*' groups on Facebook. Whilst these types of groups are commonplace in placemaking terms, there is a subtle differentiation here whereby the ongoing maintenance of places, such as continued upkeep of parks by collection of litter, imbues a sense of place and belonging by the members (Parker et al., 2015). Usage of social media in this manner is only notionally discussed by the authors, yet offers use a lucrative avenue for further research. Yet, it is clear that digital transformation has played a role in the efforts of communities to engage in place maintenance activities and hence a contribution to this theme is evident, despite the lower numbers of studies involved.

Future research agenda

The chapter has adopted place management lens to reflect upon digital transformation in place branding research. Each of the three facets involved represents a valuable contribution to our understanding of place management. However, the review also highlights unanswered

questions that remain in each facet, before proposing three key areas which have been overlooked.

Harnessing the trifecta

Not surprisingly, place marketing studies were the most common within the dataset. However, very few holistic studies that consider the viewpoints of the communities who are influenced by such activities. The majority of studies in this area focus on the individuals responsible for marketing or branding activities, whilst overlooking the community members and *vice versa*. However, future studies might incorporate both the community view (from the wide-scale collection of social media data) as well as the outcomes of place marketing activities (digital ticket sales, destination website traffic, search engine keyword popularity, footfall traffic etc.)

The chapter also supports the notion that digital placemaking research is an emergent area of interest and practice, and more studies are welcome here. Given the extremely difficult conditions imposed on daily life by the COVID-19 virus, more research into placemaking initiatives which use digital platforms to recreate the lived experience would be useful for the future. Place maintenance had the fewest results from the systematic review and therefore much more could be done to understand how digital transformation might play a role in assisting this facet, by considering how community projects are using digital platforms to raise awareness of and facilitate their activities.

It is also worth considering the inter-relationships between the trifecta. Notably, some studies identified by this review aimed to perform a case study of place branding, however they also enhance our knowledge of placemaking and maintenance at the same time (e.g. Cleave et al., 2017; Breek et al., 2018b; Källström and Hultman, 2019). Likewise, the processes involved

with placemaking can certainly draw attention and produce new visitors, effectively performing a marketing function. Similarly, by investigating place maintenance projects in communities, we learn more about placemaking. Perhaps future studies will speak to all three aspects of the trifecta too. The systematic review did not reveal many contributions to all three and perhaps this suggests a potential area for further investigation. Next, I suggest three key areas as a future research agenda for the digital transformation of place branding.

Artificial intelligence and machine learning

The timescale to which the systematic review was performed was not restricted and incorporated studies from 2019 and 2020. What has emerged as a key omission was any discussion of artificial intelligence (AI) in the studies identified in recent publications. I believe this to be an important omission to highlight, as AI is currently being hailed in hyperbolic terms as a significant tool for innovation in marketing. As a result, a wide spectrum of business processes are being altered by innovative technological solutions such as rapid identification of customers who would be more receptive to incentives and concomitant avoidance those unlikely to purchase (Davenport et al., 2020). Advances in programmatic advertising models also allow for a highly efficient segmentation of customer groups based on a plethora of behaviours which would have been difficult for humans to perform at pace. Although as McGuigan (2019) rightly points out, this approach is a replication of TV advertising techniques from the 1950s, albeit in larger volumes. Regardless, it is wise to acknowledge the potential of artificial intelligence and machine learning processes and their contribution to the goals of the place management trifecta.

Considering the traditional tenets of human geography, artificial intelligence and machine learning processes may also be useful in assessing people's interactions with spaces and places.

Through a widespread collection and analysis of a broad range of data, the decision-making processes can be assisted by digital technology. Arguably, by removing the human element in the analysis of data produced by large volumes of user interactions with places, an unvarnished representation of reality emerges, which may help change management perspectives and approaches in relation to the place management trifecta. Furthermore, the potential for even larger-scale research projects is now evident, with opportunities emerging to conduct machine learning experiments on large datasets from sources such as footfall and weather data to develop predictive models regarding place (e.g. Mumford et al., 2020).

Automation of processes

Similar to AI and machine learning processes, automation of digital processes is becoming commonplace. However, automation processes are relatively simpler to instigate and would demand a lower budget for place managers and planners. This could be useful for place maintenance in a similar manner to the *Shotstopper* application. Furthermore, brands are increasingly using automation for marketing purposes whereby customers are faced with an automated system that will provide key information to expedite the customer journey. There could be a case of use of automation processes that will pinpoint areas of places based on user signifiers such as food preferences and previous trips, etc. Automation could also extend to regular users of places, by suggesting alternative routes through cities with lower pollution in support of health and wellbeing. In effect, use of artificial intelligence and automation represents the shift from the smart city ideology to a customer centric mindset, which I argue moves places towards more inclusive placemaking that can only be afforded by digital technology. A cautionary note, however, is that over-automation is already being reported as a significant detractor of customer experiences (Willis and Aurigi, 2020), so a careful balance between automation and human intervention is required.

(Improved) social media sentiment analysis

Advances in the sentiment analysis of social media data have been made through recent improvements in analytics (Micu et al., 2017). More rigorous approaches to deciphering sentiment on topics relating to places could be an advantageous activity. For example, using sentiment analysis to identify patterns and trends within users' interactions with places might facilitate a more bottom-up approach to the marketing, making and maintenance of places. Trend mapping of user sentiment on social media using NVIVO could also provide clearer insights into user connections with places pre- and post-experience or visit. Lastly, sentiment analysis techniques can unearth negative opinions of places such as cleanliness, air quality etc. Further scrutiny of negative sentiment would be a welcome solution to the dearth of critical works which examine the detrimental effects of digital transformation.

Conclusion

This chapter has provided a framework of place branding research by considering the influence of digital transformation. In doing so, an alternative view of the relationship between digital transformation of place branding is provided by focusing on three facets of place management, namely place marketing, making and maintenance. Hence, in order to understand the potential of place branding, we need to look at its digital transformation through the place management trifecta, considering that place branding arguably has a legitimate stake in each of the three facets. By alignment of the collective knowledge in these three areas, notable trends and patterns have been identified and discussed, as well as notable gaps in the current knowledge base. A future research agenda for researchers considering the impact, detriment and outcomes observed when digital transformation in places is also provided. Three primary areas for further

research areas are identified, namely artificial intelligence, automation processes and social media sentiment analysis.

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Appendix 1

The following hyper link is to a publicly accessible Google Sheet.

https://docs.google.com/spreadsheets/d/1f_jWEC8xxTXqRDxB8oFRNgb-QG68BaQKY5GfBgmjt0M/edit?usp=sharing

The results of the systematic literature review, listed with author, title, year and publication details across three tabs:

1. Digital and Place Marketing
2. Digital Placemaking
3. Digital and Place Maintenance